

CHANCE'S

Best Quality Resistance
Laboratory Glassware



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A New Report by the National Physical Laboratory upon Chance's IMPROVED Resistance Laboratory Glassware

CHANCE BROTHERS AND CO. LIMITED, GLASS WORKS, SMETHWICK BIRMINGHAM.



REPORT.

ON THE EXAMINATION OF CHEMICAL GLASSWARE
SUBMITTED BY MESSRS. CHANCE BROS.

Samples of chemical laboratory glassware consisting of 12 beakers 250 cc. and 12 flasks 250 cc. capacity bearing a mark Chance's Resistance Glass were submitted by Messrs. Chance Bros. for examination and tests. The test applied to them corresponds to those which have been provisionally agreed upon as standard tests for chemical laboratory glassware by the National Physical Laboratory and the Inst. of Chemistry.

THE ACTION OF WATER.

For this purpose 3 beakers and 3 flasks, carefully cleansed with 5% acetic acid and boiling distilled water, were partially filled with distilled water and heated for 3 hours at a pressure of 4 atmospheres in an autoclave. The vessels during test were placed over the surface of the water in the autoclave, and were protected from splashing by loosely fitting silver cylinders and covers. After test the alkali removed from the glass was determined by means of standard acid and on another portion of the water the total solid matter extracted was estimated. The results are expressed as grammes of soda (Na_2O) per square dcm. of glass surface in the case of alkalinity, and as grammes of solid matter in the extracted material. The figures are means of three closely agreeing results

Alkalinity/

Date : 24th January, 1927.

Reference : WHW/995.

Walter Rosenham
for Director

Alkalinity (Na_2O) expressed as gms. per dcm.

Beakers 0.00017

Flasks 0.00012

After the autoclave test the vessels were perfectly clear and quite untarnished.

Soluble matter removed per sq. dcm.

Beakers 0.0019

Flasks 0.0025

THE ACTION OF HYDROCHLORIC ACID.

This test was only applied to the beakers, as the shapes of the flasks, and other conditions, make it impossible to obtain strictly comparative tests.

One hundred cubic centimetres of hydrochloric acid (sp.gr.1.15) were placed into each beaker and boiled gently, without loss, for half an hour. The acid was now evaporated to dryness and the whole process repeated twice. The beakers were cleaned out with water and the solution thus obtained evaporated to dryness, ignited and weighed. After making allowance for the residue originally present in the acid it was found that none of the three beakers had given up any substance to the acid.

THE ACTION OF CAUSTIC SODA.

Three beakers and three flasks were cleansed and weighed, using similar vessels as counterpoises. 100 cc. of 2N caustic soda were placed into each vessel and boiled for four hours in such a way that no evaporation occurred; on cleaning and again weighing the following losses were found to have taken place. The losses are the means of three and represent losses per square dcm.

Date: 24th January, 1927.

Beakers/

Reference: WHW/995.

Beakers	0.262
Flasks	0.250

The vessels were not etched in any way.

THE ACTION OF AMMONIA AND AMMONIUM CHLORIDE.

50 cc. of 2N ammonium chloride and 50 cc. of ammonium hydroxide (1 part 0.88 NH_4OH 3 parts water) were placed into each of three beakers, which had been used for the acid tests, and the liquid boiled for half an hour, the vessels being covered during the process. The liquid was next transferred to platinum dishes and evaporated to dryness and ignited. A blank test was also made on the original reagent. It was found that no matter had been extracted from the vessels and after the test the glass had undergone no change as regards lustre.

RESISTANCE TO SUDDEN CHANGES OF TEMPERATURE.

Molten paraffin wax was placed into each of three beakers and three flasks and gently heated up to 105°C . The vessels were now removed from the source of heat and the wax was stirred vigorously, the stirring being continued until the temperature had fallen to 100°C . In this way it was ensured that the glass was not likely to be at a temperature exceeding 100°C .

The vessels were now rapidly plunged into water at 15°C . The process was repeated at 125°C ., 150°C ., 175°C ., 200°C ., 210°C ., 225°C ., 240°C ., and 250°C .

The tests resulted as follows:—

- 1 Beaker cracked at 225°
- 1 ,, ,, ,, 250°
- 1 ,, developed a small crack at 250°C and remained entire.
- 1 Flask cracked at 225°
- 2 Flasks cracked slightly at 250° but remained entire.

Date: 24th January, 1927.

The/

Reference: WHW/995.

The General resistance to chemical attack is good, especially in the case of water, acid and ammonia. The attack by caustic alkali is, however, somewhat high, but considering the severe conditions imposed it is not excessive.

CONCLUSIONS.

The behaviour of the glassware under the various tests may be regarded as very satisfactory.

The resistance of the glass to attack by water is definitely superior to that of the glass submitted in 1922. The thermal endurance of the present samples also shows a definite advance on those previously tested. In regard to uniformity of weight, thickness and shape, the samples submitted are very satisfactory.

Walter Rosenblum,
for Director.

Date : 24th January, 1927.

Reference : WHW/995.

Price List for

CHANCE'S

Best Quality

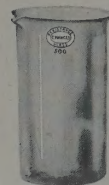
Resistance Laboratory
Glassware

BEAKERS AND FLASKS

BEAKERS, TALL

WITH OR WITHOUT LIP.

Nominal Capacity	...	...	50	100	150	250	400	500 c.c.
PRICE	...	...	7d.	8d.	8d.	10d.	1/1	1/2 each.
"	...	...	6/-	6/6	7/-	9/-	11/-	12/- per dozen.
Nominal Capacity	...	...	600	800	1000	1500	2000	4000 c.c.
PRICE	...	...	1/4	1/6	1/8	2/3	2/6	4/5 each.
"	...	...	14/-	16/-	18/-	24/-	27/-	48/- per dozen.



BEAKERS, SQUAT

WITH OR WITHOUT LIP.

Nominal capacity	...	50	100	150	250	300	400	500 c.c.	
PRICE	...	...	7d.	8d.	8d.	10d.	11d.	1/2 each.	
„	...	...	6/-	6/6	7/-	9/-	10/-	11/-	12/- per dozen.
Nominal capacity	...	600	800	900	1000	1300	2000	4000 c.c.	
PRICE	...	...	1/4	1/6	1/8	1/8	2/1	2/6	4/5 each.
„	...	...	14/-	16/-	18/-	18/-	22/-	27/-	48/- per dozen.



BEAKERS, CONICAL

WIDE MOUTH, WITH LIP.

Nominal capacity	...	...	...	...	175	200	250	300 c.c.
PRICE	...	...	...	...	9d.	10d.	10d.	11d. each.
"	...	...	...	...	7/6	8/6	9/-	10/- dozen.
Nominal capacity	...	...	400	450	500	600	800 c.c.	
PRICE	...	...	1/1	1/2	1/2	1/4	1/6 each.	
"	...	...	11/-	12/-	12/-	14/-	16/- per dozen.	



Tall pattern	...	...	200 c.c.	
PRICE	...	...	10d. each.	
"	...	...	8/6 per dozen.	

BEAKER FLASKS

Nominal capacity	...	...	50	75	100	150 c.c.	
PRICE	...	...	8d.	8d.	8d.	9d. each.	
"	...	...	6/6	7/-	7/-	8/- per dozen.	
Nominal capacity	...	...	200	300	400	450	600 c.c.
PRICE	...	...	10d.	1/1	1/2	1/3	1/5 each.
"	...	...	9/-	11/-	12/-	13/-	15/- per dozen.



BOLTHEAD FLASKS, WELTED NECKS

Nominal capacity	...	...	...	...	300	600	1000	2000 c.c.
PRICE	...	...	...	...	1/2	1/6	2/3	3/7 each.
"	...	...	...	...	12/-	16/-	24/-	39/- per dozen.



EXTRACTION FLASKS (C.O.2)

Nominal capacity	...	...	50	75	100	150	200	300	450	600 c.c.
Approx. external diam. of neck	...	...	...	...	...	...	...	...	...	...
in m/m.	...	...	29	31	33	37	39	41	47	51
PRICE	...	...	7d.	8d.	8d.	9d.	10d.	11d.	1 1/2	1 5/8 each.
"	...	...	6/-	6/6	7/-	8/-	8/6	10/-	12/-	15/- per dozen.



FLASKS, GLOBULAR

ORDINARY SHAPE, FLAT BOTTOM.

Nominal capacity	...	...	50	100	175	200	250 c.c.	
Approx. external diam. of neck								
in m/m.	...	...	18	20	21	22	24	
PRICE	...	...	7d.	8d.	9d.	9d.	10d. each.	
„	...	...	5/6	6/6	7/6	8/-	9/- per dozen.	
Nominal capacity	...	...	300	400	500	600	750	800 c.c.
Approx. external diam. of neck								
in m/m.	...	...	23	25	25	26	30	26
PRICE	...	...	11d.	1/1	1/2	1/4	1/6	1/6 each.
„	...	...	10/-	11/-	12/-	14/-	16/-	16/- per dozen.
Nominal capacity	...	...	1000	1500	2000	3000	4000 c.c.	
Approx. external diam. of neck								
in m/m.	...	...	31	34	40	46	48	
PRICE	...	...	1/8	2/3	2/6	3/4	4/5 each.	
„	...	...	18/-	24/-	27/-	36/-	48/- per dozen.	



FLASKS, GLOBULAR

ORDINARY SHAPE, ROUND BOTTOM.

Nominal capacity	...	...	...	...	100	175	250	350	400 c.c.
Approx. external diam. of neck in m/m.	...	...	...	...	21	20	22	25	25
PRICE	...	...	...	...	8d.	9d.	10d.	1/-	1 1/8 each.
"	...	...	...	...	6/6	7/6	9/-	10/6	11/- per dozen.
Nominal capacity	...	...	...	...	500	600	800	1000	2000 c.c.
Approx. external diam. of neck in m/m.	...	...	...	...	25	26	26	34	42
PRICE	...	...	...	...	1/2	1/4	1/6	1/8	2/6 each.
"	...	...	...	...	12/-	14/-	16/-	18/-	27/- per dozen.



KJELDAHL'S FLASKS

WITH LONG NECKS.

Nominal capacity ...	...	...	...	100	150	200	300	500 c.c.
PRICE ...	...	...	...	1/1	1/2	1/3	1/5	1/8 each.
" ...	...	...	...	11/-	12/-	13/-	15/-	18/- per dozen.



KJELDAHL'S FLASKS

WITH SHORT NECKS.

Nominal capacity ...	...	...	...	100	150	200	300	500 c.c.
PRICE ...	...	...	...	11d.	1/1	1/2	1/4	1/7 each.
" ...	...	...	...	10/-	11/-	12/-	14/-	17/- per dozen.

FLASKS, CONICAL

ORDINARY SHAPE.

Nominal capacity ...	...	50	100	175	250	300	350	500	600 c.c.
Approx. external diam. of neck in m/m.	...	18	20	24	23	26	27	27	27
PRICE ...	...	7d.	8d.	9d.	10d.	11d.	1/1	1/2	1/4 each.
" ...	...	5/6	6/6	7/6	9/-	10/-	11/-	12/-	14/- per dozen.

Nominal capacity ...	...	750	800	1000	1500	2000	4000	6000 c.c.
Approx. external diam. of neck in m/m.	...	28	28	31	35	35	41	51
PRICE ...	...	1/6	1/6	1/8	2/3	2/6	4/5	6/1 each.
" ...	...	16/-	16/-	18/-	24/-	27/-	48/-	66/- per dozen.

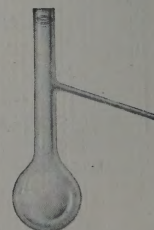
Wide Mouth ...	...	...	...	...	...	250 c.c.
Approx. external diam. of neck in m/m.	...	...	...	...	...	32
PRICE ...	...	...	...	...	...	10d. each.
" ...	...	...	...	...	...	9/- per dozen.



DISTILLATION FLASKS, ENGLER'S TYPE

STANDARD DIMENSIONS FOR OIL DISTILLATION.

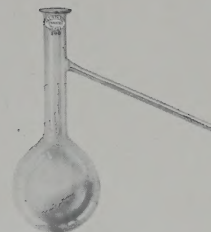
Nominal capacity ...	...	100 c.c.
PRICE ...	...	2/1 each.
" ...	...	22/- per dozen.



DISTILLATION FLASKS

WITH SIDE TUBE, LONG NECK, ROUND BOTTOM.

Nominal capacity	100	175	250	350	400 c.c.
Approx. external diam. of neck in m/m.	21	21	23	25	26
PRICE	1/6	1/8	1/10	2/1	2/3 each.
"	16/-	18/-	20/-	22/6	24/- per dozen.
Nominal capacity	500	600	800	1000	2000 c.c.
Approx. external diam. of neck in m/m.	26	27	28	31	42
PRICE	2/5	2/9	3/4	3/11	6/1 each.
"	26/-	30/-	36/-	42/-	66/- per dozen.



EVAPORATING BASINS.

ROUND BOTTOM.

Nominal capacity	Plain		Spouted.	
	each.	dozen.	each.	dozen.
20 c.c.	9d.	7/6	10d.	8/9
25 "	9d.	7/6	10d.	8/9
30 "	9d.	7/6	10d.	8/9
50 "	10d.	8/9	10d.	9/3
75 "	11d.	10/-	1/-	10/6
100 "	1/2	12/6	1/2	11/3
150 "	1/4	13/6	1/5	14/6
200 "	1/5	14/3	1/6	15/6
300 "	1/7	16/9	1/8	18/-
400 "	1/9	19/3	2/1	21/3
500 "	2/4	25/-	2/6	27/6



PETRIE DISHES

100 m/m. top, external. . 95 m/m. bottom external	...	...	...	...	24/- dozen pairs.
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" BACO " BEAKERS

Wide, 112 m/m. Deep, 65 m/m.	...	...	...	...	...	12/9 dozen.
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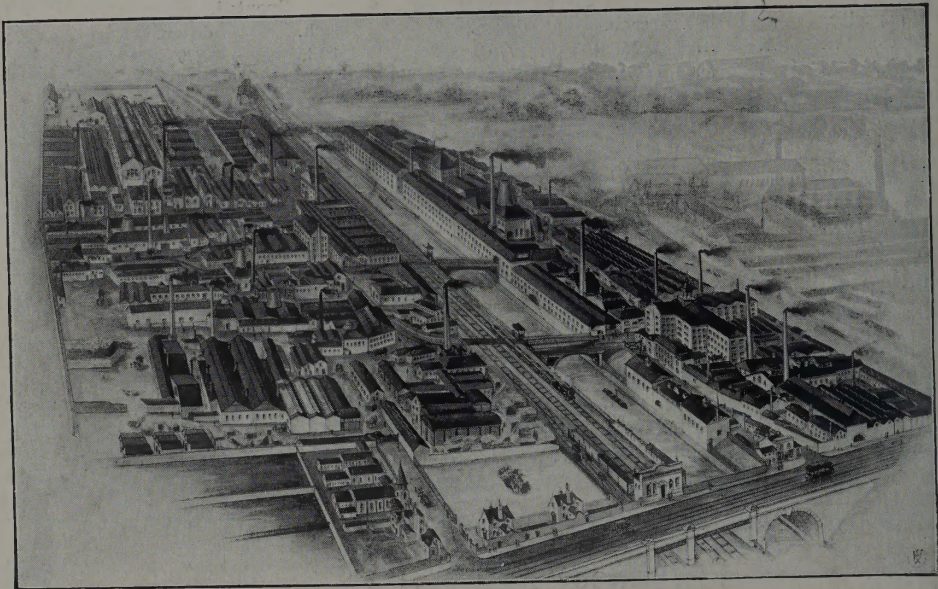


RESISTANCE AND QUALITY GUARANTEED

Carriage paid on parcels of not less than £5 net value.

Packages are charged extra, but are allowed for in full when returned to us in good condition.

Accounts are subject to 2½% Cash Discount if paid during month following despatch of goods.



VIEW OF WORKS OF MESSRS. CHANCE BROTHERS AND CO. LIMITED,
NEAR BIRMINGHAM.